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EXAMINER	
CHAUDRY, MUJTABA M	
ART UNIT	**PAPER NUMBER**
2133	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/797,007	PENG ET AL.	
	Examiner	Art Unit	
	Mujtaba K. Chaudry	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☒ Claim(s) *6-22* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 March 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Preliminary Amendment

Applicants' preliminary amendment filed on March 11, 2004 has been received. Claims 1-22 are presented for examination.

Priority to Provisional Application

Applicants' priority claim to provisional application 60/453194 is not acceptable and therefore the priority date of March 11, 2003 is not granted. The provisional application filed March 11, 2003 does not meet the requirements under 35 USC 111(b) and 35 USC 119(e). See MPEP 201[R-3]. For example, a specification was not provided in the provisional application as prescribed by the first paragraph of section 112 of this title. Infact, more than half of the provisional application filed March 11, 2003 is in a language other than English. After careful examination of the provisional application 60/453194 and the present application 10797007, there is no clear evidence that the Applicants had conceived the invention at the time the provisional application was filed and therefore are not entitled to the priority date.

Oath/Declaration

The Oath filed March 11, 2004 complies with all the requirements set forth in MPEP 602 and therefore is accepted.

Drawings

The drawings submitted March 11, 2004 are objected to because:

- In Figure 1, reference number 22 refers to "IEC" and in the specification (i.e., page 1, paragraph 3 and page 2, line 2) reference number 22 refers to "IED". Applicant is suggested to check specification to make certain that it is consistent with the Figures to avoid unnecessary confusion.
- Figure 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. For example, see specification at page 5, paragraph 3. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
- In Figure 5, step S530 the term "drive" should be "derive".

Appropriate correction is requested.

Specification

The specification filed March 11, 2004 is objected to because:

- As stated in the drawings objections, the term IED (i.e., page 1, paragraph 3 and page 2, line 2) referring to Figure 1 reference number 22 does not correspond. The

Examiner is not sure if the mistake is in Figure 1 or in the specification and therefore has objected to both.

- Applicants use the terms "PEDC" and "MEDC" throughout the application and do not provide a definition for the acronyms. Nor are they believed to be standard in the art. Applicants are suggested to define these terms at least in the first occurrence of the specification so that the reader is able to follow without unnecessary confusion.
- Applicants use the phrase, "the real error detection code" throughout the specification and define it as the result of XORing the first and second error detection codes. Applicants are suggested to avoid using the term "real" as it implies that the other codes are "imaginary" or "fake". As an option the result of the XORing of the first and second error detection codes could be a third error detection code. Also, "the real error detection code" is not mentioned in the claims, it is simply referred to as "the error detection code" which is acceptable. In any case the term "real" should be avoided and the terms need to be uniform throughout the specification, drawings and claims alike to avoid unnecessary confusion.
- On page 9, the term "skip" in paragraph 4 (about middle) should be "skipped" to be grammatically correct.

Correction is requested.

Claim Objections

Claim 1 is objected to because of the following informalities:

- In line 1, "a" should be inserted after "generating".

- In line 8, "on" should be inserted after "operating".
- In line 9, the term "error" should be inserted after "the second" and before "detection code".

Appropriate correction is required.

Claim 6 is objected to because of the following informalities:

- In line 1, "a" should be inserted after "generating".
- In line 12, "the" should be inserted after "generating".
- In line 12, "on" should be inserted after "operating".

Appropriate correction is required.

Claim 8 is objected to because of the following informalities:

- In line 1, "correct" should be inserted after "correction".

Appropriate correction is required.

Claim 10 is objected to because of the following informalities:

- In line 1, "a" should be inserted after "generating".
- In line 10, "the" should be inserted after "generating".
- In line 10, "on" should be inserted after "operating".

Appropriate correction is required.

Claim 13 is objected to because of the following informalities:

- The term "following" should be omitted to make the claim grammatically correct.

Appropriate correction is required.

Claim 14 is objected to because of the following informalities:

- In line 1, "correct" should be inserted after "correction".

Appropriate correction is required.

Claim 15 is objected to because of the following informalities:

- In line 1, there should be a space between "claim" and "10".

Appropriate correction is required.

Claim 16 is objected to because of the following informalities:

- In line 1, "a plurality of" should be inserted after "generating" and before "error correction".
- In line 1, the term "code" should be "codes".
- In line 2, the term "sector" should be "sectors" since there is a plurality of them.
- In line 12, the term "a" should be "the".
- In line 13, "on" should be inserted after "operating".
- In line 17, the term "same" should be inserted after "the" and before "main".

Appropriate correction is required.

Claim 17 is objected to because of the following informalities:

- In lines 1-2, "the error detection code" should be "the plurality of error detection codes".
- In line 2, the verb "is" should be "are" to be grammatically correct.
- In lines 3-4, "the second error detection code" should be "the plurality of second error detection codes".

Appropriate correction is required.

Claim 18 is objected to because of the following informalities:

- In lines 1-2, "the second error detection code" should be "the plurality of second error detection codes".
- In line 2, the verb "is" should be "are" to be grammatically correct.
- The term "following" in line 4 should be omitted to be grammatically correct.

Appropriate correction is required.

Claim 19 is objected to because of the following informalities:

- In lines 1 and 4, "same" should be inserted after "the" and before "main".
- In lines 2-3, "the second error detection code" should be "the plurality of second error detection codes".
- In line 3, the verb "is" should be "are" to be grammatically correct.

Appropriate correction is required.

Claim 21 is objected to because of the following informalities:

- In line 1, "correct" should be "correction".

Appropriate correction is required.

Claim 22 is objected to because of the following informalities:

- In line 2, "comprising" should be "comprises".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claim 3 depends from claim 1 and reads, "...wherein **the sector data information is substituted by zero when generating the first error detection code.**" Claim 1 mentions nothing about sector data when generating a first error detection code. Infact, claim 1 suggests that the generation of the first error detection code is **"...<u>according</u> to the main data;"** Therefore it is not clear how the sector data can be substituted by zero in the generation of the first error detection code.

Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claim 4 depends form claim 1 and reads, "...wherein **the main data is substituted by zero when generating the second error detection code.**" Claim 1 mentions nothing about main data when generating a second error detection code. Infact, claim 1 suggests that the generation of the second error detection code is **"...according to sector data information;"** Therefore it is not clear how the main data can be substituted by zero in the generation of the second error detection code.

Appropriate correction is requested.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Mori et al. USPAN 2004/0103360A1 (herein after: Mori).

As per claim 1, Mori teaches a method for generating error detection code (i.e., paragraph 0105, lines 8-12) of a data sector with sector data information and main data (i.e., paragraph 0074), comprising the following steps: generating a first error detection code according to the main data (i.e., paragraph 0102, lines 7-11 and Figure 8); generating a second error detection code according to the sector data information (i.e., paragraph 0104, lines 1-7); and generating the error detection code by operating the first error detection code and the second error detection

code (i.e., paragraph 0106, lines 7-10, operating is equated to interleaving and multiplexing); wherein the first error detection code is generated when the main data is read from a host (i.e., paragraph 0100, lines 1-4). The Examiner would like to point out that user data is analogous to main data of the present application and ID data is analogous to sector data of the present application. Mori also teaches that the error correction code may be for error detection as well (paragraph 0105, lines 9-12).

Claim Rejections - 35 USC § 103

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. USPAN 2004/0103360A1 (herein after: Mori) further in view of Takemoto et al. USPN 5003539 (herein after: Takemoto).

As per claim 2, Mori does not explicitly teach, in view of above rejection to claim 1, the error detection code to be generated by performing *exclusive-OR operation* of the first and second error detection codes as stated in the present application.

However, Takemoto teaches, in an analogous art, method and apparatus for generating error detection codes (i.e., title and abstract). Particularly, Takemoto teaches (i.e., col. 7, lines 42,

48 and 58) to perform an exclusive-OR operation on two error detection codes as stated in the present application. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Mori by performing exclusive-OR operation on the two error detection codes instead of just operating on them. This modification would have been obvious to one of ordinary skill in the art because one of ordinary skill would have recognized that by performing exclusive-OR operation on the first and second error codes would have reduced the overall bandwidth of the system (i.e., Takemoto, col. 2, lines 47-64).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. USPAN 2004/0103360A1 (herein after: Mori) further in view of Applicants Admitted Prior Art (AAPA).

As per claim 5, Mori substantially teaches, in view of above rejection to claim 1, (i.e., paragraph 0104, lines 1-3) the sector data information comprises identification data (ID) and error correction code.

Mori does not explicitly teach the sector data to also comprise of reserve data (RSV) as stated in the present application.

However, AAPA teaches (i.e., Figure 1 and specification, page 1, paragraph 3) that information recorded on a DVD has physical structure including a plurality of data sectors. One data sector comprises 20 comprises reserve data (RSV) 23. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a reserve data in sector data within the teachings of Mori. This modification would have been obvious to one of ordinary skill in the art because one of ordinary skill would have recognized that when the

optical disc of Mori is replaced with a DVD, then the sector data would comprise of reserve data (RSV) as is suggested in the AAPA (page 1, paragraph 3) and only the formatting would be effected.

Allowable Subject Matter

Claims 6-22 are objected to and would be allowed once the minor corrections are made as suggested by the Examiner in the claim objections above. The following is an Examiner's statement of reasons for indicating allowable subject matter:

Independent claim 6 of the present application teaches a method for generating error detection code of a data sector with sector data information and main data, comprising the following steps: generating a first error detection code according to the sector data information and the main data, wherein the sector data information is substituted by a first substitutional value; generating a second error detection code according to the sector data information and the main data, wherein the main data is substituted by a second substitutional value; and generating error detection code by operating the first error detection code, the second detection code and a correction constant, wherein the correction constant is derived depending on the first substitutional value and the second substitutional value; wherein the first error correction code is generated when the main data is read from a host. The foregoing limitations are not found in the prior arts of record. Particularly, none of the prior arts of record teach nor fairly suggest, *"...generating a first error detection code according to the sector data information and the main data, wherein the sector data information is substituted by a first substitutional value; generating a second error detection code according to the sector data information and the main data,*

wherein the main data is substituted by a second substitutional value; and generating error detection code by operating the first error detection code, the second detection code and a correction constant, wherein the correction constant is derived depending on the first substitutional value and the second substitutional value...".

Dependent claims 7-9 depend from allowable independent claim 6 and inherently include limitations therein and therefore are allowed as well.

Independent claim 10 of the present application teaches a method for generating error detection code of a data sector with sector data information and main data, comprising the following steps: generating a first error detection code according to the sector data information and the main data, wherein the sector data information is substituted by a first substitutional value; generating a second error detection code according to the sector data information; and generating error detection code by operating the first error detection code, the second detection code and a correction constant, wherein the correction constant is derived depending on the first substitutional value; wherein the main data is substituted by zero when generating the second error detection code. The foregoing limitations are not found in the prior arts of record. Particularly, none of the prior arts of record teach nor fairly suggest, *"...generating a first error detection code according to the sector data information and the main data, wherein the sector data information is substituted by a first substitutional value; generating a second error detection code according to the sector data information; and generating error detection code by operating the first error detection code, the second detection code and a correction constant, wherein the correction constant is derived depending on the first substitutional value; wherein the main data is substituted by zero when generating the second error detection code."*

Dependent claims 11-15 depend from allowable independent claim 10 and inherently include limitations therein and therefore are allowed as well.

Independent claim 16 of the present application teaches a method for generating error detection code of a plurality of data sectors with a plurality of different sector data information and same main data, comprising the following steps: generating a first error detection code according to the same main data, wherein each different sector data information are respectively substituted by a corresponding first substitutional value; generating a plurality of second error-detection codes according to each corresponding different sector data information; and generating a plurality of error detection codes by operating the first error detection code, the corresponding plurality of the second error detection codes, and a correction constant; wherein the first error detection code is generated when the main data is read form a host. The foregoing limitations are not found in the prior arts of record. Particularly, none of the prior arts of record teach nor fairly suggest, "*...generating a first error detection code according to the same main data, wherein each different sector data information are respectively substituted by a corresponding first substitutional value; generating a plurality of second error-detection codes according to each corresponding different sector data information; and generating a plurality of error detection codes by operating the first error detection code, the corresponding plurality of the second error detection codes, and a correction constant...*"

Dependent claims 17-22 depend from allowable independent claim 16 and inherently include limitations therein and therefore are allowed as well.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Additional pertinent prior arts are included herein for Applicant's review. For example:

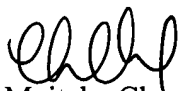
Jarvinen et al. (USPN 6170073) teach an encoder encodes digital signals representative of data by classifying the digital signals into first and second classes indicative of their influence on data quality and subjects them to error detection encoding capable of generating at least two error detection codes which respectively correspond to the first and second classes. A decoder receives the encoded digital signals classified into first and second digital signal classes, decodes the error detection codes, and generates error signals, corresponding to the respective digital signal classes, from which the quality of the received digital signals is estimated and the utility of the received digital signals is determined.

Ikeda (USPN 5903532) teaches a disk for recording specified data having a plurality of helically formed track areas with one round of the circumferential direction of the disk as one track and a plurality of sector areas in which the plurality of track areas given track numbers added continuously from the outer peripheral direction of the disk are dividedly formed. The plurality of sector areas further include a plurality of data areas for storing the specified data and one parity sector for storing the parity of the specified data stored therein. The plurality of sector areas are given sector numbers added continuously from the starting positions of the track areas. In an information recording block having the plurality of sector areas included in the specified number of ones of the plurality of track areas, a plurality of parities recorded in the parity sector areas of these track areas are calculated by using different track and sector numbers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mujtaba K. Chaudry whose telephone number is 571-272-3817. The examiner can normally be reached on Mon-Thur 9-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on 571-272-3819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Mujtaba Chaudry
Art Unit 2133
January 4, 2007